

Clemson IMPACTS

Clemson University Public Service Activities

Fall 2006



Bountiful
first harvest for
PeeDee vineyard



Federal Reserve
Chairman meets
S.C. business



Hurricanes mimic
effects of global
climate change on
coastal forests



Taking fat off
dinner plates



Health Fest
helps youth face
challenges



Downunder
Horsemanship
Clinic comes to
Garrison Arena



Letter from the Vice President

In many of the IMPACTS articles, we refer to facilities around the state. Below is a map to illustrate where these facilities are located. As you can see, our "campus" is the state of South Carolina.

This integrated, multi-disciplinary system is designed to develop and deliver unbiased, science-based information to improve the quality of life for our state's citizens in the areas of:

- Agrisystems productivity and profitability
- Economic and community development
- Environmental conservation
- Food safety and nutrition
- Youth development and families

I hope you enjoy this issue. It contains information that can benefit commercial growers and livestock producers, forest and natural resource managers, economic and community development professionals, youth and families, state and local agencies, businesses, and private citizens.

Sincerely,

John W. Kelly
Vice President for
Public Service and Agriculture



Knowledge for living. Knowledge for life.

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PUBLIC SERVICE

Clemson Impacts, a quarterly publication of Clemson Public Service Activities, is available to South Carolina residents upon request. Clemson Impacts is also available on the web www.clemson.edu/public/

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Top peanut research award goes to Clemson scientists

By Tom Lollis

The American Peanut Research and Education Society honored two Clemson scientists with its top research award at the national meeting in July. State peanut and small grain specialist Jay Chapin and research associate James Thomas were honored for their study on the relationship between peanut peg strength and pod maturity, disease incidence and fungicide treatments.

"Peg strength is the key to whether the grower leaves all his money in the ground when digging," said Chapin. The peg is the stem that attaches peanut pods to the plant. Chapin and Thomas studied whether pegs lose strength as the peanut matures and whether fungicide programs enhance peg strength.

"We found that pegs of fully mature pods are just as strong as less mature stages. But once pods become over-mature, peg strength can drop by 70 percent," Chapin said. A grant from the S.C. Peanut Board grant supported the research at the Edisto Research and Education Center in Blackville.

For information: Jay Chapin, 803-284-3343, ext. 226, jchapin@clemson.edu.

Photo by Tom Lollis



New pest attacks greenhouse and other crops

By Peter Kent

Greenhouse growers are facing a new strain of whitefly this year – the Q-biotype sweet potato whitefly. "The new strain may not be as susceptible to the usual insecticides applied in the past," said Richard Hassell, plant scientist at the Coastal Research and Education Center.

The new whitefly was first detected in the United States in 2004, and now has been found in 22 states, including South Carolina. It attacks ornamental, vegetable and other crops. Along with the silver leaf whitefly, it reduces crop yields by sucking out plant nutrients and secreting a sticky substance that promotes the growth of fungus. It also transmits viruses that damage crops.

In the field or greenhouses, high infestations of whiteflies can be identified by the presence of plant damage, immature whiteflies on the underside of foliage and adults that fly when the plant is disturbed. Shipping infested plants can spread the pest. Growers should check plants before and after shipment and rotate insecticides to help manage this and other insect pests.

For more information: Richard Hassell, 843-402-5394, rhassell@clemson.edu.



Photo by Tomika Orsbon

Bountiful first harvest for PeeDee vineyard

By Stephanie Beard

Last spring, a one-acre muscadine vineyard was established at the PeeDee Research and Education Center as a demonstration for interested growers. This year, the vines produced their first crop of fruit, with two varieties harvested in late summer, and one in the fall.

Typically, grapevines don't yield a large crop during their first couple of years, but project director Jody Martin is pleased with the first harvest. Now the Carolina AgriSolutions Growers Cooperative is being formed to help interested growers identify niche markets for their grapes, including nutraceuticals, wine, and juice.

For more information: Jody Martin, 843-661-4800 ext. 115 or jamrtn@clemson.edu.



Photo by Tom Lollis

Beef producers: improve forage quality and feed less hay

By Tom Lollis

South Carolina beef producers need to improve forage quality and let the cattle harvest it instead of feeding hay. That was the message at the Edisto Research and Education Center's fall field day in September.

"Studies indicate that the average cattleman feeds hay around 130 days a year," said John Andrae, Clemson University forage specialist. "Most producers can cut this to 60 days and excellent managers to 30-35 days." He recommended growing cool and warm-season perennials, overseeding bermudagrass with winter annual grasses and legumes, and planting alternative forages such as chicory.

He also urged producers to take better care of the hay they bale. Twenty-five to 30 percent of hay stored on the ground rots. Net wraps offer better protection than twine and barn storage is best for preserving quality.

Other research presentations covered peanuts, soybeans, cotton, watermelon, pumpkin and precision agriculture, as well as the Forage Bull Test and the Beef Cattle Integrated Resource Management project. A record of more than 400 farmers attended the event.

For information: John Andrae, 864-656-3504, jandrae@clemson.edu.

Soybean rust warning system cuts treatment costs in half

By Tom Lollis

Soybean growers concerned about Asian soybean rust depend on an early warning system set up by Clemson scientists for advice on when to spray fungicides to protect the state's 435,000-acre crop.

"The system has worked well," said John Mueller, plant pathologist at the Edisto Research and Education Center. Clemson established 15 sentinel plots of early maturity soybeans from the Coastal Plain to the Piedmont, putting every soybean grower in the state within 50 miles of an early warning plot.

By late September rust had been found in 13 counties: Anderson, Barnwell, Calhoun, Colleton, Darlington, Dorchester, Edgefield, Florence, Hampton, Horry, Lee, Orangeburg and Sumter. At least 100,000 acres have received fungicides at a cost of about \$10 an acre.

"Yield losses should be at a minimum," said Mueller. He estimates that one-third to one-half of the state's soybeans will be sprayed once. "Two years ago we were afraid everybody would have to spray twice. So, with the sentinel plots, we have cut rust control costs in half."

For more information: John Mueller, 803-284-3343, ext. 223, jmlr@clemson.edu.



Photo by Tom Lollis

It's a melon on top but a gourd underground

By Tom Lollis

The possibility of improving disease resistance has Clemson scientists developing new techniques to produce watermelons grafted to gourd rootstock.

"Grafted watermelons are common in Asia, where manpower is plentiful," said Gilbert Miller, area vegetable specialist at the Edisto Research and Education Center. "The advantage is that the gourd rootstock is resistant to some of the soil-borne diseases that affect watermelons."

Grafted melons also hold the promise of earlier planting, greater yields and drought tolerance. Growers viewed a demonstration planting at the Edisto Center's Watermelon and Vegetable Field Day in July. They also learned how to prepare a graft from Richard Hassell, state vegetable specialist at the Coastal Research and Education Center in Charleston.

"Grafted melons are too expensive to use in this country right now," Hassell said. "We're working on techniques to reduce the cost for U.S. growers."

For information: Gilbert Miller, 803-284-3343, ext. 225, gmlr@clemson.edu, or Richard Hassell, 843-402-5394, rhassell@clemson.edu.

Federal Reserve Chairman meets S.C. business leaders

By Peter Kent

More than 600 business and community leaders attended a homecoming celebration for Federal Reserve Chairman Ben Bernanke. The August event was hosted by Leadership South Carolina in Greenville and was his first appearance in the state since the Dillon native was sworn in as chairman.

"We are delighted that Chairman Bernanke's schedule allowed him to participate in our alumni gathering to honor South Carolina leaders," said Marc H. Johnson, chairman of Leadership South Carolina. "We are also thankful to Senator Lindsey Graham for his support to showcase the very best leadership that South Carolina has to offer."

Leadership South Carolina is based at Clemson's Institute on Economic and Community Development in Columbia. It enrolls up to 50 participants each year who have demonstrated service to their communities and who strive to reach a higher level of public service.

For more information: Helen Munnerlyn, 803-788-5700 ext. 44, hmunner@clemson.edu, or www.leadershipsouthcarolina.org/.



Photo by Brian Erkens

U.S. Commerce selects Clemson to foster state's economic growth

By Peter Kent

State and local governments will benefit from Clemson economists' expertise under an agreement with the U.S. Department of Commerce. Clemson was selected to enhance South Carolina's capacity to attract and grow high-skilled, high-wage employment opportunities.

As the Economic Development Administration University Center for the state, Clemson experts will provide research and technical assistance to community leaders to help develop industry clusters, promote business development and prepare workers for the knowledge-based economy.

The center is funded by a three-year grant and will be administered by the Regional Economic Development Research Laboratory and the Institute for Economic and Community Development. Co-directors are economists David Barkley and Mark Henry.

For more information: David Barkley, 864-656-5797, dbarkly@clemson.edu, or Mark Henry, 864-656-5774, mhenry@clemson.edu.

Supporting grandparents raising grandchildren

By Kerry Coffey

One of the fastest-growing designations of "family" in the United States involves grandparents raising grandchildren. U.S. Census data for 2004 shows that there are approximately 4,000 grandparents in Greenville County who are serving as primary caregivers to their grandchildren.

To help grandparents cope, the Strong Communities initiative of the Institute on Family and Neighborhood Life has organized local support groups. Currently, three support groups meet monthly in Greenville and Anderson counties. In them, grandparents can meet each other and discuss concerns. Guest speakers also provide information on topics such as financial and legal issues.

Strong Communities is funded by a grant from the Duke Endowment to prevent child abuse and neglect in Greenville, Anderson and Laurens Counties.

For more information: www.clemson.edu/strongcommunities/, 864-688-2214



Photo by Pat Wright

Campbell Scholars assist with youth programs

By Kathy Woodard

Many afterschool and mentoring programs need reliable volunteers to assist full-time staff. The Campbell Scholars program fills this need by providing a consistent group of college student volunteers. Now entering its fifth year, the scholarship was made possible by the generosity of the late Bob Campbell and his wife Betsy.

Campbell Scholars volunteer eight to ten hours a week in elementary and middle schools in Seneca and Clemson or at the Sprouting Wings program in the S.C. Botanical Garden.

Freshman Josh Lance, one of six Campbell Scholars, is a mentor in two schools. "Growing up I had wonderful mentors," he said. "I still remember everything they taught me. I hope to have the same effect on the students I work with."

For more information: www.clemson.edu/servicealliance/.

Photo by Debbie Dalhouse



Audubon Society honors Clemson Experimental Forest

By Peter Kent

State Audubon officials have recognized the importance of the 17,500-acre Clemson Experimental Forest as a wildlife habitat by designating it an Important Bird Area.

The forest qualified because of the number of species of national and global concern that use it for food and shelter. The review committee also noted the management and conservation efforts at the forest. "The ongoing research contributes immensely to the knowledge base of bird populations in South Carolina," wrote Ann Shahid, state Audubon program leader.

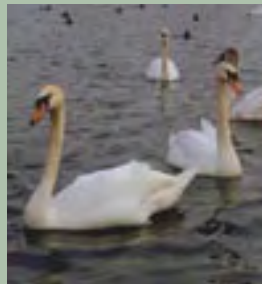
The forest becomes the 39th area in the state and one of nearly 1,700 U.S. sites. Drew Lanham, Clemson wildlife biologist, applied for the IBA status. "Clemson is fortunate to have a forest of this size and quality attached to its campus," he said. "Its size is vital to sustain the diversity of species, and its quality makes it an ideal teaching, research and community resource."

For more information: Drew Lanham, 864-656-7294, lanhamj@clemson.edu.

Wild bird monitoring guards against bird flu

By Peter Kent

Strains of bird flu have been circulating for years in South Carolina's ducks, shorebirds and other wild birds. Unlike the H5NI strain in Asia and Europe, the native strains are not dangerous to humans.



A national surveillance program constantly monitors wild birds and tests for the H5N1 flu strain. Beginning in September and continuing through the end of January, South Carolina and other states are joining the U.S. Departments of Agriculture and Interior to collect between 75,000 and 100,000 wild bird samples and conduct more than 50,000 environmental tests nationwide.

"Increased testing raises the likelihood of finding normal avian influenza in the state's wild water birds," said Tony Caver, state veterinarian and director of Clemson's Livestock-Poultry Health division. Scientists in this unit will test the state wild bird samples for bird flu. If first-round tests prove positive, the samples will be sent to a federal lab for confirmation.

Game bird hunters should wear sturdy blood-proof gloves when cleaning game, safely dispose of the entrails and cook the birds to at least 165° F internal temperature.

For more information: Tony Caver, 803-788-2260, acaver@clemson.edu.

Photo by Diane Palmer



Horses and natural resources can coexist

By Tom Lollis

Of all the non-motorized nature trail users, the horse is the hardest on the environment. Over time, trail riders can leave behind gullies, eroded stream banks, silted streams and angry land managers calling for a ban on horses.

It doesn't have to be that way, according to Gene Wood, Clemson forest ecologist and a national leader in horse trail

construction. "We can preserve the ecological integrity of the forest and use horses for recreation at the same time," he said.

He recommends using gravel and synthetic materials called geotextiles to hold the gravel in place and harden wet or muddy trails. To prevent a gully from forming on hillsides, trails should fit the contour of the land and be hardened with gravel in the switchbacks. Also, stream crossings should be built to keep horses off stream banks as much as possible.

These and other guidelines are in a new book, *Recreational Horse Trails in Rural and Wildland Areas*, that will be available free in 2007 through the USDA Forest Service. The book was funded by the Federal Highway Administration's Recreational Trails Program through the American Horse Council.

For more information: Gene Wood, 864-656-0319, gwood@clemson.edu.



Cypress trees in the Jean Lafitte National Park near New Orleans, LA after Hurricane Katrina. Notice the great number of broken branches on the forest floor and one blown over cypress tree.



Cypress trees dying from salt water intrusion along Turkey Creek near Georgetown, SC.

Hurricanes mimic effects of global climate change on coastal forests

By Stephanie Beard

Most people are familiar with damage to trees from hurricane winds, but may not realize that storm surge also damages coastal wetland forests. Hurricane-driven storm surges introduce salt water into areas that are typically freshwater ecosystems.

William Conner, wetlands expert at Clemson's Baruch Institute of Coastal Ecology and Forest Science, studies water salinity levels, tree growth, gas levels, and nutrient cycling to document changes that occur over time due to global climate change and hurricanes. Both events push salt water inland where it causes tidal freshwater forests to change slowly into marshes as trees die. These studies, in South Carolina and Louisiana, are conducted in cooperation with the U. S. Geological Survey's National Wetlands Research Center.

He is also studying the genetics of cypress trees that survive in spite of salt stress. His goal is to determine whether there are genetic differences in these trees that allow them to tolerate salt. If so, seeds from these trees can be grown and saplings replanted in areas where salt water has killed the forest.

For more information: Dr. William Conner, 843-546-1013, wconner@clemson.edu.

National Fish and Wildlife Foundation joins fight to eradicate beach vitex

By Stephanie Beard

A grant from the National Fish and Wildlife Foundation is funding beach vitex eradication at some 50 beachfront locations in Charleston, Georgetown, and Horry counties.

Chuck Gresham, a forest ecologist at Clemson's Baruch Institute of Coastal Ecology and Forest Science, is working with the Carolinas Beach Vitex Task Force to remove the invasive plant and re-establish native dune vegetation.

The invasive shrub was first planted on South Carolina beaches in 1990 when the dunes were rebuilt after Hurricane Hugo. Now it has spread and Clemson research shows that native dune plants cannot grow where vitex occurs. Also, volunteers monitoring sea turtle nesting are concerned that it could interfere with nesting and with baby turtles' trip to the sea.

With landowners' permission, the Task Force will inject herbicide into the vitex, then wait six months before removing it and restoring the dunes with native plants, such as sea oats. Much of the work will take place in Pawleys Island because it has the most known locations of vitex. All the treatments, including replanting, are covered by the grant.

For more information: Chuck Gresham, 843-546-6314, cgrsham@clemson.edu.



Nutrigenomics chair will lead “functional foods” research

By Peter Kent

The South Carolina Research Centers of Economic Excellence Review Board has approved Clemson's proposal for an endowed chair in nutrigenomics.

The nutrigenomics chair will lead research efforts on how the micronutrients in plant-based foods activate certain genes that can cause – or prevent – obesity in humans. Obesity is a major health problem in South Carolina, contributing to diabetes, heart disease, and some cancers.

“We will focus on identifying and understanding the power of functional foods – foods or supplements that may provide health benefits beyond basic nutrition,” said Susan Barefoot, chief operating officer of the Clemson Experiment Station and nutrigenomics initiative leader. “And we will be looking for businesses to join us in seeking to understand the science and in finding opportunities to reach the public.”

The endowed chairs program was created by the S.C. legislature to attract top academic scientists to the three research universities and to increase development of high technology companies in the state.

For more information: Susan Barefoot, 864-656-3140, sbrft@clemson.edu.



Taking fat off dinner plates

By Peter Kent

Church cooks are learning how to reduce fats and calories through a training program led by Marge Condrasky, Clemson food and human nutrition scientist.

She is working with Jeanette Jordan and the African Methodist Episcopalian (AME) churches in the Charleston area to improve the eating habits and cooking skills of the congregations. Their goal is to change eating habits and reduce the risks of obesity-related conditions such as diabetes and heart disease.

“We will provide a hands-on training workshop to encourage healthy meals and snack preparation at churches,” said Condrasky. “We will have church cooks work with trained chefs, who will show them how to build flavor into meals and snacks through healthy ingredients.”

The workshops will show church cooks how to use more fruits, vegetables and whole grains, use regional seasonings, and reduce saturated fat, trans fats and sodium. The five-year project, called “A Partnership to Promote Physical Activity and Healthy Eating in AME Churches”, is funded through a federal grant for nutrition.

For more information: Marge Condrasky, 864-656-6554, mcondra@clemson.edu.



Small flock owners learn best management practices

By Peter Kent

People who keep backyard flocks are an important part of protecting the health of South Carolina's poultry industry from avian influenza. To improve disease prevention and flock management, Clemson poultry scientists and veterinarians conduct a Small Flock Certification Program twice a year.

The certification program was developed by Clemson Extension, Clemson Livestock-Poultry Health Division and the S.C. Department of Agriculture to bring small poultry flocks into compliance with the National Poultry Improvement Plan.

The one-day workshop provides information on health monitoring and disease prevention, biosecurity practices, nutrition basics and flock management. “All flock owners are encouraged to attend the course,” said Michelle Hall, Extension poultry specialist. She and Julie Helm, Livestock-Poultry Health veterinarian, manage the certification program.

For more information: www.clemson.edu/LPH/npip.htm.

AmeriCorps partnership launches dropout prevention program

By Diane Palmer

Middle school students in five Lowcountry school districts will have new learning resources and encouragement to stay in school through a partnership between Clemson Extension and the federal AmeriCorps program.

Called Builders of Tomorrow, the initiative will engage students in school and community activities, build leadership skills and introduce them to potential career and educational opportunities.

"We are looking forward to having AmeriCorps in our community," said Charlie Sweat, mayor of Walterboro. "The program will help with retention of students in our schools and prepare our young people for better jobs in the future." Funded by an AmeriCorps grant, the program will be offered in Allendale County, Barnwell District 19, Colleton County, Dorchester District 4 and Hampton District 1.

"This grant allows us to provide valuable learning resources to middle school students that will improve their outlook on learning and help them develop into good citizens and neighbors for our future," said Alta Mae Marvin, program director. "We will be hiring 22 AmeriCorps members from our local counties to work with us in our schools."

For more information: Alta Mae Marvin, 843-549-2595, Ext. 126; amarvin@clemson.edu.



Photo by Alta Mae Marvin

Health Fest helps youth face challenges

The third annual Youth Health Fest was held in Anderson for youths 12 to 19 to teach them how to face challenges in life with a positive and healthy attitude. "Many youths are leading healthy, happy and productive lives," said Marian Robinson, Clemson Extension community health specialist. "However, others face challenges and temptations that can have a long-lasting negative effect."

The day provided interactive sessions on health and quality of life issues, such as responsible relationships, health and wellness, ethics, conflict resolution, nutrition, and tobacco and substance abuse prevention.

For more information: Marian Robinson, mchpmn@clemson.edu, 864-226-1582, Ext 111.



Photo by Mary Korte

Animals give insight into human evolution

By Peter Kent

Most animals rely on trial and error for the young to learn how to survive on their own. Now, Lisa Rapaport, a Clemson behavioral ecologist, has identified animal behavior that gives insight into human evolution.

She found that African pied babbler birds use behavior called "cooperative breeding" and "provisioning" to help their young learn how to find food. The parent birds cooperate with other adult birds to teach the young how to find food. During the learning process, they share their food with the young. She also observed provisioning and teaching behavior in the golden lion tamarin monkeys in Brazil.

"When we find other species in which young are provisioned and given instruction about food, it helps us to better understand ourselves," said Rapaport. "Now we are beginning to appreciate that our cooperative child-rearing system may have played a crucial role, allowing our ancestors the luxury of time to learn."

For more information: Lisa Rapaport, 864-380-2432, lrappo@clemson.edu.

Summer camp goes to the Caribbean

By Pam Bryant

Nearly 80 youth participated in the first day-camps offered this summer by the Youth Learning Institute at Clemson's Archbold Tropical Research and Education Center in Dominica.

One week-long session for campers age 8-14 focused on environmental education. The campers collected and tested water and soil samples, identified plant types and learned to use handheld global positioning systems. The second session engaged campers age 17-25 in leadership and life skills-building activities. Existing classroom space was expanded and new adventure components were installed at the center so the campers could traverse a stream, climb and rappel from trees and play low impact, team-building games.

"Camping isn't new to Dominican youth, but we wanted to give them a chance to experience the 'nature island of the Caribbean' in a new and exciting way," said Pam Ardern, YLI curriculum director who led the YouthLink Dominica camps. "The camps allowed young people to explore new things, learn new skills and share good times with new friends. Hopefully, it's an experience that will make lifelong impact."

For more information: Pamela Ardern, 864-878-1041, pardern@clemson.edu.



Photos by Greg Linke



Building character builds classrooms, communities and careers

By Pam Bryant

For South Carolina to succeed in a global economy, all citizens must be prepared for productive careers. This is more difficult for some students who may have physical or mental disabilities, low scores on standardized tests, or no plans for education after high school.

To help these students succeed Clemson's Youth Learning Institute has joined the S.C. Department of Education in a four-year initiative to teach character education skills that translate from classrooms to communities to careers. Called S.C. Teen LEAD (Teen Leaders Evolving And Developing), the initiative will train and empower 10th graders, called "character cadres," to direct character development programs in their schools and communities.

Initially, school officials from seven school districts will nominate students, with plans for statewide involvement by year four. Selected students will participate in summer sessions developed by YLI to provide technical assistance and mentoring. The initiative is funded by a \$2.6 million grant from the U.S. Department of Education.

For more information: Pamela Ardern, 864-878-1041, pardern@clemson.edu.



Young students become forensic investigators

By Pam Bryant

Evidence reveals there's a new program under development to teach fifth through eighth graders the processes and technologies of forensic science. CSI – Clemson Student Investigators – is an experiential learning program developed by the Youth Learning Institute.

CSI students will use fingerprinting, footprint casting, DNA analyses, enzyme testing and other math, science and technology applications to solve mysteries. The three-day, two-night residential program will bring groups of students to the institute in Pickens to build class unity, and to demonstrate leadership and cooperation.

CSI also offers continuing education credits for teachers who complete professional development trainings that promote stress reduction and performance enhancement, and identify catalysts to make learning fun for students. As a bonus, they will receive a TestEdge® kit, an interactive, research-proven learning program that teaches students skills to overcome test anxiety and improve scores. CSI sessions will operate between February and May.

For more information or to schedule a class: Youth Learning Institute 864-878-1041.



Photo by Craig Mahaffey



Sonoco provides foundation for new packaging institute

By Peter Kent

Sonoco Products Company has donated \$2.5 million to launch the Sonoco Institute of Packaging Design and Graphics at Clemson. The proposed institute will be the only one of its kind in the nation.

More than 500 students are currently enrolled in the packaging science and graphic communications programs. The institute will bring the two programs together and enhance research and education for both students and professionals in the packaging and printing industries.

"Sonoco has been a long-standing friend of Clemson," said university President Jim Barker. "This gift creates an extraordinary investment in education, research and service to a high-tech industry." The company provided \$500,000 to create the Sonoco Packaging Science Laboratory in 1993.

"We understand the value of a research university partnership," said Sonoco President and CEO Harris E. DeLoach Jr. "Preparing the next generation of packaging and graphics professionals is vital. Research drives change and we have to be able to change to compete more effectively."

For more information: Keith Barber, 864-656-2877, kbarber@clemson.edu.

New dean for College of Agriculture, Forestry and Life Science

By Teresa Hopkins

Alan Sams will join Clemson in January as the new dean of the College of Agriculture, Forestry and Life Sciences. He has served as head of the poultry science department at Texas A&M University since 1999.

"We are fortunate to have Alan Sams join the Clemson community," said Clemson Provost Dori Helms. "He brings a solid knowledge of agriculture, from the field to the research lab."

Sams earned his bachelor's degree in poultry science and food and resource economics, a master's degree in poultry science, and a doctorate in food science and human nutrition, all from the University of Florida. He served as assistant professor and associate professor before becoming chair of the poultry science department at Texas A&M.

Interim dean Calvin Schouties will return to the plant pathology faculty at Clemson. The College of Agriculture, Forestry and Life Sciences at Clemson has more than 2,700 graduate and undergraduate students. It provides teaching, research and service to benefit the citizens of South Carolina and the nation.

For more information: Dori Helms, 864-656-3940, biol110@clemson.edu.



New calendar offers monthly gardening tips

A new lawn and garden calendar provides monthly gardening tips from Bob Polomski,

Extension horticulturist, and features photographs from the S.C. Botanical Garden. The calendar can be ordered from county Extension offices or online at www.clemson.edu/psa-publishing/. Cost is \$12.50.

Photo by Charles Williams



Downunder Horsemanship Clinic comes to Garrison Arena

By Diane Palmer

Aussie horse trainer Clinton Anderson brought his Downunder Horsemanship, "Wahla Walkabout Tour", to the Garrison Livestock Arena in August.

The host of two weekly television shows on RFD-TV helps horse owners work through training challenges, so both horse and rider can get more enjoyment from training and recreation. He is the two-time champion of the rigorous Road to the Horse Colt Starting Challenge, which gives trainers just three hours to break an unstarted colt.

For more information: Charles Williams, 864-646-2718, cwillms@clemson.edu or www.clemson.edu/garrison/.

Paint helps keep golf courses green

By Tom Lollis

More than 200 persons attending the annual Turfgrass Field Day in September saw a new way to keep the green in a bermudagrass putting surface over the winter. Paint it.

Special paints – which are dyes, not oil-based – are used on some courses in South Carolina, according to Haibo Liu, lead scientist for the study funded by the Golf Course Superintendents Association of America and the Carolinas Golf Course Superintendents Association.

“Over-seeding continues to be the dominant winter practice for areas like Myrtle Beach, since real grass is more attractive to people from northern states coming south for winter golf,” he said. Winter painting avoids the added cost of over-seeding, which can weaken the underlying bermudagrass during the spring transition.

Graduate student William Sarvis said that plots painted in December and in February greened up in spring before unpainted dormant greens due to higher solar heat absorption.

For information: Haibo Liu, 864-656-6367, haibol@clemson.edu, or Bert McCarty, 864-656-0120, bmcarty@clemson.edu.



Photo by Tom Lollis

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